

DENISOV, Nikolay Mitrofanovich; SAMOYLENKO, P., otv. red.; VARNAKOVA, N.,
red.; RUDINA, G., red.; YURMANOVA, A., red.

[Reinforced-concrete supports and their use in Kuznets Basin
mines] Zhelezobetonnaia krep' i ee primeneniye na shakhtakh
Kuzbassa. Kemerovo, Kemerovskoe knizhnoe izd-vo, 1959. 177 p.
(MIRA 15:11)

(Kuznetsk Basin--Mine timbering)
(Reinforced concrete construction)

DENISOV, N.M., inzh.

Economic efficiency of supports for horizontal workings in
Kuznetsk Basin Mines. Shakht. stroi. 7 no.11&10-11 N°63
(MIRA 17:7)

1. KuzNIIshakhtostroy.

MARKOVSKAYA, L.A.; MINYAYEV, N.A.; MISHKIN, B.A.[deceased]; MISHKINA, A.Ya.;
MURAV'YEVA, O.A.; NEKRASOVA, V.L.; ROZHEVITS, R.Yu.[deceased]; FLO-
ROVSKAYA, Ye.F.; SHISHKIN, B.K.; YUZEPCHUK, S.V.; SHISHKIN, B.K., prof.,
redaktor; DENISOV, N.N., redaktor; GATAULLINA, A.S., tekhnicheskiy
redaktor.

[Flora of the Leningrad Province] Flora Leningradskoi oblasti. Otvet-
stvennyi red. V.K.Shishkin. Leningrad. Izd-vo Leningradskogo univ.
No.1. 1955. 285 p. (Microfilm) (MLRA 9:6)

1. Leningrad. Universitet. 2. Chlen-korrespondent Akademii nauk SSSR
(for Shishkin). (Leningrad Province--Botany)

KORNEYEV, Mikhail Yakovlevich, DENISOV, M.N., red.; VODOLAGINA, S.D., tekhn.
red.

[Science and superstructure] Nauka i nadstroika. [Leningrad] Izd-vo
Leningr.univ., 1958. 81 p. (MIRA 11:9)
(Science)

DENISOV, Nikolai, N.

Our country, the birthplace of aviation. Moskva, Yoen. izd-vo, 1950. 118 p. (51-34445)

TL526.R9D42

DEMISOV, N

Boyevaya Slava Sovetskoy Aviatsii (Combat Fame of Soviet Aviation)
Moskva, Voennoye Izd-vo Voennoy Ministerstva SSSR, 1951.
188 p.
Cataloged from Abstract.

Russia as the Homeland of Aviation and the Reputation of Soviet
Fighters and their Excellent Victories in the Air. A list Cites Memorable
Events and Data Concerning Soviet Air Combat.

N/5
491
.D4

DENISOV, N., polkovnik.

~~.....~~
The air battle over Kuban. Vest.Vozd.Fl. 34 no.12:10-18 D '51.
(Kuban--World War, 1939-1945--Aerial operations) (MLBA 8:3)

DENISOV, N. polkovnik; GOLUNOV, A.V., podpolkovnik, redaktor; ZAKHAROVA,
N.P., tekhnicheskiiy redaktor

[Soviet Air Force Day is a holiday for all the people] Den' Vozdush-
nogo flota SSSR - vsenarodnyi prazdnik. Moskva, Voen.izd-vo Voennogo
ministerstva SSSR, 1952. 63 p. [Microfilm] (MIRA 10:1)
(Russia--Air Force)

DENISOV, N., polkovnik; **LYALIKOV, B.S.**, polkovnik, redaktor; **KONOVALOVA, Ye.K.**,
tekhnicheskiy redaktor.

[Combat fame of Soviet aviation] Boevaya slava sovetskoi aviatsii.
2-e, dop. izd. Moskva, Voen.izd-vo Ministerstva oborony SSSR, 1953.
263 p. (MLRA 8:2)
(Russia--Air force)

DENISOV, N., polkovnik.

Soviet aviation in the battle for the Dnieper. Kryl.rod. 4 no.11:4-5 N '53.
(MLRA 6:11)

(Dnieper valley--World War, 1939-1945)

Aviatsiya na sluzhbe u sovetskogo naroda

AID 761 - X

any technical information.

TEXT DATA

Coverage: The book contains four chapters which seem to be separate articles, because the same data are frequently reiterated. For details, see the "Annotated Table of Contents".

Annotated Table of Contents Pages

Introduction 3-7

Role and progress of Soviet aviation

Ch. I Winged People 8-42

General historical outline from Kryakutnoy's flying machine, 1731 to the Soviet regime. Aircraft design and designers. A. F. Mozhayskiy's airplane (illus.), "Grand" (1912), "Russkiy vityaz'" (1913), "Il'ya Muromets" (illus., 1914), "Svyatogor" planes. D. P. Grigorovich's hydro-plane (1912-1913), and 60 aircraft types. S-16, M-B bis, DM, S-20 fighter planes (1915). N. Polikarpov's destroyer (1923), and 70 aircraft types. "Maxim Gor'kiy" airship (illus.). A. Tupolev's 80 aircraft types. Many other designers are also mentioned. Development of internal combustion and piston engines, with names of inventors.

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Aviatsiya na sluzhbe u sovetskogo naroda

AID 761 - X
Pages

The first jet propulsion engine invented, according to the author, by Treteesskiy in 1849; projects of rocket engines in the 19th century. Shvetsov, Klimov, Mikulin and other Soviet designers of aircraft engines; Shatilov, Tsander, Dushkin, Lyul'ka and other inventors of jet engines. Scientists: Zhukovskiy, Tsiolkovskiy, Chaplygin (photos). Innovators and investigators in aviation techniques, e.g., P. Nesterov, K. Artseulov, and others. Aircraft equipment. Aerophotography (1902), radiotelegraphic devices on airplanes (1911) and other radio instruments. Parachute designed by G. Kotel'nikov in 1911. Development of aeromedical research started by I. M. Sechenov and I. P. Pavlov.

Ch. II Soviet Pilots, Active Builders of Communism

43-80

History of Soviet Civil Aviation from its origin in 1923 to the present. Development of the airline network. PS-9 and K-5 passenger planes, P-5 single-engine postal plane (in the First Five-Year-Plan). Main Administration of Civil Aviation (GUGVF USSR) organized in 1932. V. P. Chkalov, N. I. Novikov, V. I. Monakhov

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Aviatsiya na sluzhbe u sovetskogo naroda

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Pages

(photos) and other pilots of the Civil Air Transport. New passenger planes in the Second Five-Year-Plan (G-2, MP-1, PS-89, P-35, PS-40). Freight traffic. Civil Aviation in World War II and its war effort. Further development in accordance with the Five-Year-Plan, 1946-1950. Role of aviation in agriculture (2 illus.), in forestry and forest fire prevention, in sanitary and medical service, in aerophotography, in archeological expeditions, election campaigns, propaganda activities, etc. Brief outline of Soviet flights in the Arctic regions, with names of pilots and descriptions of their achievements.

Ch. III In Defense of the Native Land

81-121

Battle chronicle of the Soviet Air Force. The First Socialist Air Force Detachment, organized in November 1917, following Lenin's instructions. Civil War and combat against the Entente, 1918-1920. I. Pavlov, outstanding fighter-pilot (photo). Combat aircraft construction. N. N. Polikarpov, A. I. Tupolev, S. V. Il'yushin, A. S. Yakovlev, A. A. Mikulin (photos.), and

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Aviatsiya na sluzhbe u sovetskogo naroda

AID 761 - X
Pages

other designers of combat planes. The names of fighter and bomber planes are mentioned. Role of Soviet aviation in the campaigns against the Japanese near lake Khasan (Far East) in 1938, and in Mongolia, in summer 1939, as well as against Finland in winter 1939/1940. History of the activities of the Soviet Air Force in World War II. Many names of fighter pilots are mentioned, e.g., B. Safonov, M. Baranov, V. Lavrinenkov, etc. Biography and battle activities of A. I. Pokryshkin, Three Times Hero of the Soviet Union (photo). E. Savitskiy, A. Molodchiy, Twice Heroes of the Soviet Union; I. N. Kozhedub, Three Times Hero (photo), etc. Air operations against Japan in 1945. Illus. of Soviet destroyer planes on p. 102.

Ch. IV Farther, Faster, Higher than All

122-161

This chapter, as its title indicates, intends to prove beyond doubt that the Soviet aviation has the leading place in the aeronautical world. Much data from other chapters on Soviet scientists, pilots and designers are here repeated. The names are scattered through the text. Portraits of V. Ya. Klimov, A. D. Shvetsov,

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Aviatsiya na sluzhbe u sovetskogo naroda

AID 761 - X
Pages

A. I. Mikoyan, S. A. Lavochkin, aircraft designers, G. Ye. Kotel'nikov, designer of the first parachute, and of V. Romanyuk "record-breaking parachutist"; photo of V. P. Chkalov with Stalin. Flights: Moscow-Peking in 1925, and Moscow - Tokyo in 1927. "SSSR" stratostat in 1933; "RD" plane breaking the long-range-flight record. High-speed records of G. Baydukov and V. Kokkinaki. Altitude records of V. Kokkinaki and others. V. P. Chkalov's long-distance flights. Descriptions of the Moscow-Udd Island and the Moscow-North Pole - U.S.A. (map, p. 136) non-stop flights performed by Chkalov, Baydukov and Belyakov in 1936 and 1937. For the 1937 flight the "ANT-25" plane with an "AM-34" engine was used. Long-range flights of M. Gromov and others, as well as of women pilots: Grizodubova, Osipenko and Raskina. Improvements in aircraft construction during World War II: "Petlyakov-8" four-engine plane, destroyer designed by A. Yakovlev, A. Mikoyan's MIG, etc. Development of airport. Aero-clubs. Society of Friends of the Air Fleet (ODVF)

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Aviatsiya na sluzhbe u sovetskogo naroda

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founded in 1923. Aircraft modeling. All-Union competitions of aircraft modelers and their long-range, altitude and speed records. Glider construction, success of Soviet gliding. Many names are scattered through the text. Parachute jumps. G. Ye. Kotel'nikov, designer. Table with names of parachutists, dates and altitudes of jumps (p. 153). Descriptions of all kinds of sporting achievements of Soviet aviators (with names).

Conclusion

162-163

Repeats the praise of Soviet aviation and aviators. Some Memorable Events and Dates in the History of Soviet Aviation

164-175

A chronicle from November 1917 to October 1952.

No. of References: None

Facilities: A great number of names scattered through the book (See "Annotated Table of Contents").

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DENISOV, N.N., polkovnik; ASTASHENKOV, P.T., inzh.-major; KADER, Ya.M.,
red.; SLEPTSOVA, Ye.N., tekhn. red.

[Atomic energy] Atomnaya energiya; sbornik statei. Moskva,
Voen.izd-vo M-va oborony Soiuza SSR, 1954. 52 p.
(MIRA 16:8)

(Atomic energy)

DENISOV, N.

Over Berlin. Vent. vozd. fl. 36 no.3:9-20 Mr '54. (MIRA 8:2)
(Berlin--World War, 1939-1945--Aerial operations)

DENISOV, N., Col.

AID P - 2044

Subject : USSR/Aeronautics

Card 1/1 Pub. 58 - 3/17

Author : Denisov, N., Col.

Title : ~~Soviet Air Force~~
Soviet Air Force in the concluding battles of World War II

Periodical: Kryl. rod., 4, 4-7, Ap 1955

Abstract : The author gives a brief outline of the military situation in the last months of the war and adds some data on Soviet Air Force strength and action. Photo.

Institution: None

Submitted : No date

DE ISOV, Nikolay Nikolayevich, polkovnik; ANDREYEV, Ye.S., general-mayor
institute "Tekhnicheskoy sluzhby, professor, redaktor; LYALIKOV, B.S.,
polkovnik, redaktor izdatel'stva; SLEPTSOVA, Ye.N., tekhnicheskiy
redaktor

[In jet aircraft] Na reaktivnykh samoletakh. Moskva, Voen. Izd-vo
Ministerstva obor. SSSR, 1956. 165 p. (MIRA 9:7)
(Jet planes) [Microfilm]

SOV/86-58-11-37/37

AUTHOR: Denisov, N. N., Col

TITLE: The Communist Party Leadership is the Source of the Indestructible
Might of the Soviet Army and Fleet (Rukovodstvo kommunisticheskoy
partii— istochnik nesokrushimoy moshchi Sovetskoy armii i flota)

PERIODICAL: Vestnik vozdushnogo flota, 1958, Nr 11, pp 92-95 (USSR)

ABSTRACT: The author reviews the materials in the collection KPSS o Vooru-
zhennykh Silakh Sovetskogo Soyuzu (Communist Party of the Soviet Union
on the Armed Forces of the Soviet Union) which was recently published by
the State Publishing House for Political Literature. According to the
author, the collection contains more than 150 items, some of which are pub-
lished for the first time.

Card 1/1

DENISOV, N.N., polkovnik

Chronicle of heroic victories ("History of the Civil War in the U.S.S.R."
Reviewed by N.N.Denisov) Vest.Vozd.Fl. no.3:87-90 Mr '60.

(MIRA 13:9)

(Russia--Revolution, 1917-1921)

DENISOV, N.

At the head of aeronautical progress. Kryl.rod. 11 no.1:
5-7 Ja '60. (MIRA 13:5)
(Aeronautics)

DENISOV, N.N., polkovnik

On the eve of great trials ("History of the Great Patriotic War of the Soviet Union, 1941-1945." Vol. 1: Imperialist powers prepare for and unleash war. Reviewed by N.N. Denisov.) Vest. Vozd. Fl. no. 9:84-88 S '60. (MIRA 13:10)
(World War, 1939-1945)

AZIZYAN, A.K.; ANDRIYANOV, B.V.; BARASHEV, P.R.; BUGAYEVA, M.I.; VASIL'YEV, N.I.; DENISOV, N.N.; ZASLAVSKIY, B.Ye.; OSTROUMOV, G.N.; TYUPAYEV, A.S.; ADZHUBEY, A.I., red.; GORYUNOV, D.P., red.; IL'ICHEV, L.F., red.; SATYUKOV, P.A., red.; SIVOLOBOV, M.A., red.; SKURIDIN, G.A., red.; TOLMACHEV, A.V., red.; DANILINA, A.I., tekhn. red.

[Dawn of the outer space era] Utro kosmicheskoi ery. Moskva, Gospolitizdat, 1961. 762 p. ____ [Phonograph record "World flight to the stars. Soviet man in outer space;" report] Gramofonnaia plastinka "Vsemirnyi reis k zvezdam. Sovetskii chelovek v kosmose"; report-tazh. (MIRA 14:10)

1. Redaktsiya gazety "Pravda" (for Azizyan, Denisov).
2. Komitet po radioveshchaniyu i televideniyu (for Andriyanov).
3. Redaktsiya gazety "Komsomol'skaya pravda" (for Barashev).
4. Redaktsiya gazety "Sovetskoye foto" (for Bugayev).
5. Redaktsiya gazety "Krasnaya zvezda" (for Vasil'yev).
6. Gosudarstvennoye izdatel'stvo politicheskoy literatury (for Zaslavskiy).
7. Redaktsiya gazety "Izvestiya" (for Ostroumov).
8. Telegrafnoye agenstvo SSSR (for Tyupayev). (Astronautics)

DENISOV, Nikolay Nikolayevich; KUVSHINOV, K., red.; POKHLEBKINA, M.,
tekhn. red.

[Very good, Gagarin] Khorosho, khorosho, Gagarin! Iz zapis-
noi knizhki korrespondenta "Pravdy." Izd-vo "Moskovskii ra-
bochii" 1963. 310 p. (MIRA 16:6)

1. Spetsial'nyy korrespondent "Pravdy" (for Denisov).
(Gagarin, IUrii Alekseevich, 1934-)

STUDNITSIN, A.A.

STUDNITSIN, A.A., professor; SHARAPOVA, G.Ya., kandidat meditsinskikh nauk; DENISOV, N.P.; MARKIN, I.Ya.

Results of using a preparation "antipsoriaticum" for the treatment of psoriasis. Vest.ven. i derm. 30 no.5:53 S-0 '56. (MIRA 9:12)
(PSORIASIS) (OINTMENTS)

MEL'NIKOVA-ODESSKAYA, L.A.; DENISOV, N.S.

Characteristics of chondromatosis of the hip joint in roentgenologic representation. Vest.rent.i rad. no.6:59-64 N-D '53. (MIRA 7:1)

1. Iz kafedry rentgenologii (zaveduyushchiy - zasluzhennyy deyatel' nauki professor S.A.Reynberg) i kliniki travmatologii i ortopedii (zaveduyushchiy - zasluzhennyy deyatel' nauki professor M.I.Fridland) Tsentral'nogo instituta usovershenstvovaniya vrachey (direktor V.P.Lebedeva) Ministerstva zdравookhraneniya SSSR. Baza - klinicheskaya bol'nitsa im. S.P.Botkina.

(Hip joint--Tumors) (Diagnosis, Radioscopic)

DENISOV, N. S.

DENISOV, N. S. -- "Clinical-Roentgenological Observations of the Processes of Bone Regeneration in the Treatment of Diaphysial Bone Breaks."
Min Health USSR. Central Inst for the Advanced Training of Physicians.
Moscow, 1955. (Dissertation for the Degree of Candidate in Medical Sciences).

So.: Knizhnaya Letopis', No. 6, 1956.

DENISOV, Nikolay Stepanovich; FAYYERSHTEYN, P., red.; YURGANOVA, M.,
tekhn. red.

[Lights of Transbaikal industry; industry of Chita Province
from the 20th to the 22d Congress of the CPSU] Ogni zabaikal'-
skoi industrii; promyshlennost' Chitinskoj oblasti ot XX do
XXII s"ezda KPSS. Chita, Chitinskoe knizhnoe izd-vo, 1961.
94 p. (MIRA 15:12)

(Chita Province--Industries)

DENISOV, N.V., inzhener

Efficient method of setting up standards. Standartizatsiia no. 3:
80 My-Je '55. (MIRA 8:10)

1. Nachal'nik otraslevogo bazovogo otdela normalizatsii standarti -
zatsii

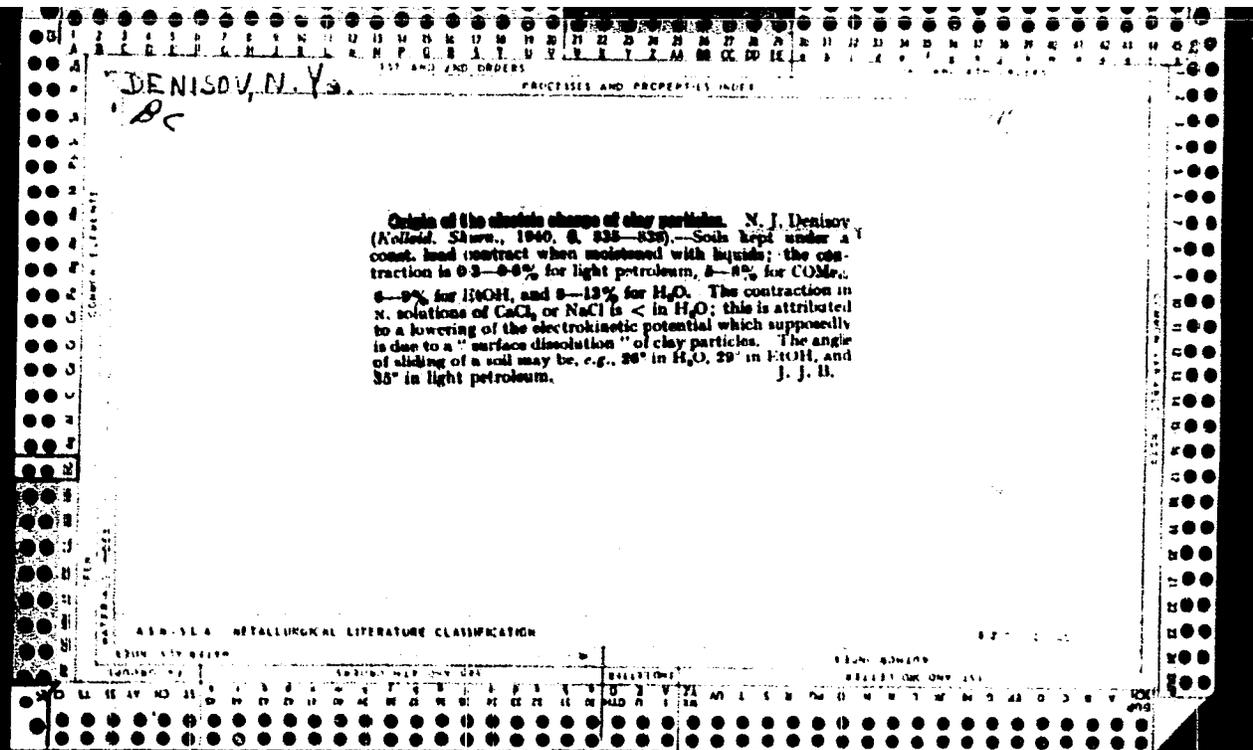
(Standards, Engineering)

TSIKURIN, N.V., kand. tekhn. nauk; DENISOV, N.V., inzh., retsenzent;
IZAKOV, N.R., kand. tekhn. nauk, dots., red.; BARYKOVA, G.I.,
red.izd-va; SMIRNOVA, G.V., tekhn. red.

[Standardization in the machinery industry] Normalizatsia v
mashinostroenii. Moskva, Mashgiz, 1963. 186 p.

(MIRA 16:4)

(Machinery industry--Standards)

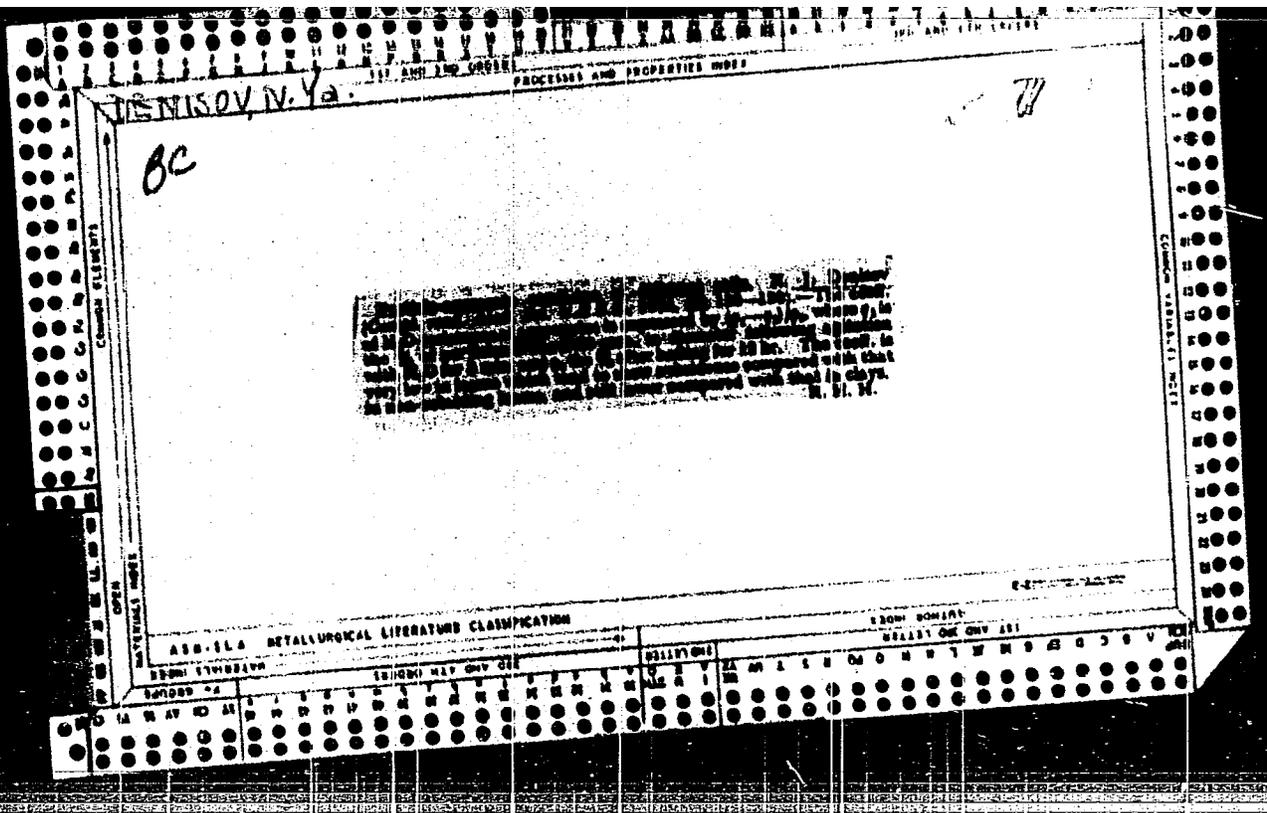


DENISOV, N. Ya.

"On the Origin of Settling Loess-like Loams," Dok. Akad. Nauk, Vol. 41, No. 3, 1943.
(S. Ordahonikidze Ind. Inst., Novocherkassk, c. 1943)

"On the Use of Data on the Aggregate Condition of Grounds," Dok. Akad. Nauk, Vol.
42, No. 4, 1943.

"The Nature of Deformations of Loess-like Loams at Moistening," Pedology, No. 8, 1943.



DENISOV, N. V.

"Reduction in Porosity of Clay Rocks During Consolidation and its Geological Importance," published in Comptes Rendus, Vol. LIII, No. 5, 1946.

"On the Mechanism of Consolidation of Clayey Rocks," Comptes Rendus, Vol. LIII, No. 4, 1946.

"A Contribution to the Theory of the Landslide Processes," Dok. Akad. Nauk, Vol. 54, No. 8, 1946.

"On a Fundamental Principle in Soil Mechanics," Dok. Akad. Nauk, Vol. 52, No. 7, 1946. (Kuybyshev Inst. of Building Eng., Moscow, c. 1946)

12.11.1950, M.I.

Chemistry and Physics

1947 ON THE MECHANISM OF CONSOLIDATION OF CLAYEY ROCKS --
N. J. DENISOV (*Comptes Rendus (Doklady) Acad. Sci. U.R.S.S.*, 53, 343, 1946)

Sedimentation and consolidation of clayey rocks tend to reduce the free potential surface energy, and to attain the lowest energy level. The maximum effect of consolidation cannot be brought about unless the consolidation pressure is exerted under conditions of reduced friction between the particles in the absence of cohesion. During the formation of most clayey rocks, factors impeding consolidation were at work, and on this account they are considered to be in a state of "apparent" equilibrium between their porosity and the pressure applied. Tests on a paste and a specimen of undisturbed structure indicate that, with the same load applied, the porosity coefficient of the latter is generally higher, owing to the peptization of a bottom sediment achieved by grinding, and by the fact that its particles are surrounded by water films. Consolidation will occur under almost optimum conditions, and such a state may be considered closely to approach that of a true relationship between porosity and pressure. A comparison of values for a ground paste and a monolithic specimen made with a load exceeding that at which compression curves begin to diverge may be represented as a ratio which is the factor of the energy stability of

rocks, $K = \frac{\rho}{\rho_0}$ where ρ = the porosity of the ground paste and ρ_0 = the porosity of the monolith. The higher the value for K, the greater is the consolidation undergone by the rock. In clays cemented together with relatively water-resisting compounds, weakening of cohesion occurs slowly, and may become manifest only in zones of small thickness, mainly under the influence of shearing stress. The significance of these stresses is seen from the fact that the shearing strength value of clayey rocks is half the value of their compression strength, and their passage to the state of true relationship between porosity and pressure is possible chiefly in the process of landslide shifts.

No. 6

8

Colloid-chemical nature of cohesion in argillaceous rocks. N. Ya. Denisov and P. A. Rehbinder. *Compt. rend. acad. sci. U.S.S.R.* 84, 1519-22 (1940) (in English). - Mol. attraction and the gluing or cementing action of fine colloidal silicate films cannot, alone, explain fully the cohesion of argillaceous rocks. Phys.-chem. processes occurring at boundaries of solid and liquid phases are factors of prime importance. Formation of colloidal films on particle surfaces results from peptization of hydrophilic argillaceous material (interaction of H₂O with chem. constituents of surface layers of the particles). The surface not developed can form a gel, even if the H₂O content is high, because the clay particles cling together with their less hydrophilic ends to form a skeletal framework. Colloidal films can secure or restore cohesion only within a definite range of moisture content, between the shrinkage limit and liquid limit. Where hydration is greater than that at the shrinkage limit, compression of the rock develops greater cohesive strength. Where hydration is below the shrinkage limit, compression completely destroys the bonds between the rock particles and weakens the cohesion. Increase in moisture content of the colloidal film (dilu. of the gel) results in decreased cohesion and increased plasticity. The loss of plasticity by argillaceous rocks and their rigidity in nature are due to delatexation of colloidal films; this makes the particle surfaces inaccessible to moisture. Sediments of clay powder are denser in nonpolar liquids like gasoline than in H₂O, but weaker mechanically, and exhibit no thixotropy. In H₂O, they do form thixotropic structures, the colloidal films that arise (peptization) contributing to this process. The structures show sharp decrease of strength under mech. stress, but are spontaneously restored if there is sufficient moisture. Consolidation and formation of structure in sediments result from the specific mol. forces of interaction, the intensity of which varies widely with conditions of sedimentation and moisture. Particles of an argillaceous rock are not all hydrophilic in the same degree. Thus, the structures formed in nature will show variations in d. and mech. strength for the same compn. Colloidal films may also act as lubricants; this allows particles to move freely and develop extremely dense packing under pressure. The binding effect of colloidal films may be accompanied by the cementing effect of various inorg. and org. substances (CaCO₃, CaSO₄). The soly. of these cements detrs. the accessibility of H₂O molts. to particle surfaces, and indirectly, the degree of possible colloidal activity. W. W. C.

ASB-SLA METALLURGICAL LITERATURE CLASSIFICATION

ASTM A 100 101 102 103 104 105 106 107 108 109 110 111 112 113 114 115 116 117 118 119 120 121 122 123 124 125 126 127 128 129 130 131 132 133 134 135 136 137 138 139 140 141 142 143 144 145 146 147 148 149 150 151 152 153 154 155 156 157 158 159 160 161 162 163 164 165 166 167 168 169 170 171 172 173 174 175 176 177 178 179 180 181 182 183 184 185 186 187 188 189 190 191 192 193 194 195 196 197 198 199 200

PA 53130

DENISSOV, N. I.

Feb 1947

USSR/Geology
Rock Formation

"The Process of Gravitational Consolidation of Argillaceous Rocks as Affected by Their Cohesiveness," N. I. Denissov, Kuybyshev Engin Inst, Moscow, 4 pp

"CR Acad Sci" Vol LV, No 4

Considers data available on state of recent argillaceous sediments forming in lakes, seas, river valleys and other bodies of water, to clarify conditions under which argillaceous rocks are formed. Adequate knowledge of nature of resistance to shear in fully formed compact argillaceous rocks cannot be gained without a clear idea of role played by cohesion in this process. Submitted by D. S. Belyankin, 25 Sep 1946.

53138

Mbr., Moscow Institute of Civil Engineering im. Kuybyshev, Moscow (-1946-)

"The Influence of the Cohesion of Clay on the Process of Gravitational Solidification," Dok. AN, 56, No. 1, 1947

"Hydrogeological Significance of the Processes of Moisture Absorption by Clay Rocks," Dok. AN, 58, No. 7, 1947

"Process of Gravitational Consolidation of Argillaceous Rocks as Affected by their Cohesiveness," Dok. AN, 55, No. 5, 1947

61066026-

~~SECRET~~
~~CONFIDENTIAL~~
~~TOP SECRET~~

DENISOV, H. Ya.

Dr. of Geology and Mineralology

Co-author on determination of fissures in rocks by
the method of injection in individual bore holes.

Soviet Source: P: Hidrotekhnicheskoye Stroitel'stvo
(Hydrotechnical Construction), No. 12, Dec 1947, Moscow

Abstracted in USAF "Treasure Island", on file in
Library of Congress, Air Information Division,
Report No. 82357, UNCLASSIFIED

DENISOV, N. YA.

PA 41T37

USSR/Geology
Clays
Soil Science

Jan/Feb 1948

"Mechanical Differentiation of Clay Sediments," N. Ya. Denisov, 6 pp

"Izv Akad Nauk SSSR, Ser Geol" No 1

Gives account of laboratory experiments conducted to show that the development of the texture may or may not be the result of seasonal changes in the size of the particles brought into the water basin. It was observed that sand particles penetrate the newest deposited layer until they reach the surface of the

USSR/Geology (Contd) 41T37
Jan/Feb 1948

clay layer. There a chemical colloidal process takes place. Thus it is possible to explain the appearance of alternating strata of clay and sand. Basically this occurs after the deposit of various graded sediments as a result of mechanical differentiation.

41T37

DENISOV, N.Ya.

DENISOV, N.Ya. professor, doktor geologo-mineralogicheskikh nauk

For healthy criticism and against the discrediting of useful
undertakings. Tekh.khel.dor. 7 no.1:22 Ja '48. (MLRA 8:11)
(Soil mechanics) (Imokhovskii, V.K.)

PA 66766

DENISOV, N. YA.

USSR/Geophysics
Climate
Geology

May/June 1946

"On the Connection Between the Properties of
Argillaceous Rock and Climatic Conditions," N. Ya.
Denisov, Chair of Geol Eng, Moscow Eng and Constr
Instiment V. V. Kuybyshev, 5 1/2 pp

"Iz Ak Nauk SSSR, Ser Geograf i Geofiz" Vol XII,
No 3 (No. 8?)

Establishes effect of climatic conditions on the
process of gravitational accumulation of clay rocks
of subaerial origin. Brief explanation shows that

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USSR/Geophysics (Contd)

May/June 1946

In certain ways the process of the condensation of
water vapors is connected with the high humidity
found in the forest regions of the southern part
of European USSR. Submitted by Academician A. A.
Grigor'yev 10 Jun 1947.

66766

DENISOV, N. Ya.

"Certain Features of Deformations of Varieties of Clay," Dok. Akad. Nauk, Vol. 59, No. 6, 1948.

"Structural and Mechanical Properties of Argillaceous Rocks and their Variations,"
ibid., 60, No. 7, 1948.

"The Theory of Deformation of Clay Strata," Dok. Akad. Nauk, Vol. 59, No. 2, 1948.
(Moscow Engr. Constr. Inst. in. V. V. Kuybshev, c. 1948)

DENISOV, N. Ya.

"An Appraisal of the Hydrologic Role of Shaded Places in the Steppe," Pochvovedeniye,
No. 6, 1949.

DENISO, N. YA.

Construction properties of loess and loess-like clayey soil, Moskva, Gos.
izd-vo stroit., lit-ry, 1951.

DENISOV, N. IA.

Stroitel'nye svoistva lessa i lessovidnykh suglinkov [Construction properties
of loess and loess-like agrillaceous soils]. Izd. 2-e. Moskva, Gosstroizdat,
1953. 152 p.

SO: Monthly List of Russian Accessions, Vol. 7, No. 3, June 1954.

GOL'DSHTEYN, M.N. [author]; DENISOV, N.Ya., professor, doktor geologo-mineralogi-
cheskikh nauk.

"Mechanical properties of soils." M.N.Gol'dshtein. Reviewed by N.IA.Denisov.
Stroi.prom. 31 no.7:47-48 JI '53. (MLRA 6:8)
(Soil mechanics)

DENISOV, N.YA.

The Committee on Stalin Prizes (of the Council of Ministers USSR) in the fields of science and inventions announces that the following scientific works, popular scientific books, and textbooks have been submitted for competition for Stalin Prizes for the years 1952 and 1953. (Sovetskaya Kultura, Moscow, No. 22-40, 20 Feb - 3 Apr 1954)

| <u>Name</u> | <u>Title of Work</u> | <u>Nominated by</u> |
|-----------------------|--|--|
| <u>Denisov, N.Ya.</u> | "The Nature of Deformation of Clayey Rocks" "Construction Properties of Loess and Loesslike Argillaceous Soils" | Moscow Construction Engineering Institute imeni V.V. Kuybyshev |

SO: W-30604, 7 July 1954

MIKHAYLOV, K.A., professor, doktor tekhnicheskikh nauk; DEHISOV, N.Ya.,
professor, doktor geol.-miner. nauk; FEDOROV, I.V., kandidat tekhnicheskikh nauk.

Method of determining degree of settling in loess-type soils. Stroif.
prom. 32 no.5:45-48 My '54. (MLRA 7:6)

1. Deystvitel'nyy chlen Akademii nauk Azerbaydzhanskoy SSR (for Mikhaylov).
(Soil mechanics)

DENISOV, Nikolay Yakovlevich; RAK, S.M., redaktor; FRIDKIN, A.M.,
tekhnicheskiy redaktor

[Structural properties of clays and their use in hydraulic engineering
construction] Stroitel'nye stoistva glinistyykh porod i ikh ispol'so-
vanie v gidrotekhnicheskoy stroitel'stve. Moskva, Gos. energ. izd-vo,
1956. 287 p. (MIRA 10:1)
(Clay)

DEKISOV, N. Y., Prof., Chief of the Chair of Engineering Geology, Moscow Institute of Civil Engineering, and REKISOV, B. P., Chief Research Engineer, Laboratory for Physical and Chemical Investigations of Soils of the All-Union Scientific Research Institute of Hydrotechnics, Leningrad, U. S. S. R.

"Elastic and Structural Deformations of Clayey Soils," a paper submitted at the 4th International Conference of the International Society of Soil Mechanics and Foundation Engineering, London, 12-24 Aut 57.

DENISOV, Nikolay Yakovlevich

DENISOV, Nikolay Yakovlevich, prof., d-r geol.-mineral.nauk; POPOV, V.V.,
d-r geol.-mineral.nauk, prof., nauchnyy red.; GOLUBENKOVA, L.A.,
red.izd-va; EL'KINA, E.M., tekhn.red.; GUSEVA, S.S., tekhn.red.

[Engineering geology and hydrogeology] Inzhenernaya geologiya
i gidrogeologiya. Moskva, Gos.izd-vo lit-ry po stroit.i arkhit.,
1957. 265 p. (MIRA 11:1)
(Engineering geology) (Water, Underground)

SOV/124-58-10 11635

Translation from: Referativnyy zhurnal, Mekhanika, 1958, Nr 10, p 134 (USSR)

AUTHORS: Denisov, N. Ya., Re'lov, B. F.

TITLE: Elastic and Structural Deformations of Clay Soils (Uprugiye i strukturnyye deformatsii glinistykh porod)

PERIODICAL: V sb.: Materialy k 4-mu Mezhdunar. kongressu po mekhan. gruntov i fundamentostr. Moscow, AN SSSR, 1957, pp 9-19

ABSTRACT: The mechanics of clay soil packing is investigated in the light of structural deformation resulting from the appearance of microslip. It is pointed out that the time element in structural deformation is independent of the presence or absence of water in the pores of the soil. A VNIIG (All-Union Scientific Research Institute of Hydro-Engineering) device employed for kinetic study of structural-mechanical properties of clay soils is described. This device operates on the principle of the decay of torsional vibrations. Results are given for some experiments performed for the determination of the shear modulus for different pastes under different load conditions. The problem of settling of loess soils is investigated in connection with the strength of their characteristic internal cementing cohesion. Z. V. Maslova-

Card 1/1

Pil'gunova

SHREYDER, M.Ye.; DENISOV, N.Ye., prof., red.; LEPESHINSKAYA, Ye.V., red.;
AKHLANOV, S.N., tekhn. red.

[Technical terms in English, Russian, French, German, Swedish, Portuguese, and Spanish used in soil mechanics and foundation engineering] Slovar' tekhnicheskikh terminov po mekhanike gruntov i fundamentostroeniyu na angliiskom, russkom, frantsuzskom, nemetskom, shvedskom, portugal'skom i ispanskom iazykakh. Russkii tekst i ukazatel' M.M. Shneider, pod red. N.IA Denisova. Moskva, Gos. izd-vo fiziko-matematicheskoi lit-ry, 1958. 139 p.

(MIRA 11:10)

1. International Society of Soil Mechanics and Foundation Engineering.

(English language--Dictionaries--Polyglot)
(Soil mechanics--Dictionaries)

DENISOV, N.Ya., prof., doktor geologo-mineral.nauk

~~XXXXXXXXXX~~
Some problems in studying properties of loess deposits. Nauch.dokl.
vys.shkoly; stroi. no.1:119-125 ' 58. (MIRA 12:1)

1. Rekomendovana kafedroy inzhenernoy geologii Moskovskogo inzhenerno-
stroitel'nogo instituta imeni V.V. Kuybysheva.
(Soil mechanics) (Loess)

DENISOV, N.Ye., prof., doktor geologo-mineral. nauk

~~Nature of slides caused by extrusion and their control.~~ Nauch.dokl.
vys.shtoly; stroi. no. 4:61-64 '58. (MIR 12:7)

1. Rekomendovana kafedroy inzhenernoy geologii Moskovskogo inzhenerno-stroitel'nogo instituta imeni V.V. Kuybysheva.
(Landslides)

DENISOV, N. Ya.; BERESTNEVA, Z. Ya.; KORZHUYEV, A. S.; NICHIFORENKO, S. P.; KUKOLEVA, G. V.;
OVCHARENKO, F. D.; ANTIPOV-KARAYEV, I. N.; VOLAROVICH, M. P.; SHISHNIASHVILI, M. Ye.;
SERB-SERBINA, N. N.;

"Structure formation in the colloidal chemistry of clays and peat."

Report presented at the Fourth All-Union Conference on Colloidal Chemistry,
Tbilisi, Georgian SSR, 12-16 May 1978 (Koll. zhur., 20,5, p.677-9, '78, Tashman, A.B)

DENISOV, M.Ya.

Rapid method of construction control of the degree of consolidation of cohesive soil suggested by J.Hilf. Nauch.dokl.vys. shkoly; stroi. no.1:127-134 '59. (MIRA 12:10)

1. Rekomendovana kafedroy inzhenernoy geologii Moskovskogo inzhenerno-stroitel'nogo instituta imeni V.V.Kuybysheva.
(Soil stabilisation)

DENISOV, N.Ya.; TROFIMENKOV, Yu.G.

Foundation engineering in Brazil. Osn., fund.i mekh.grun.
no.5:26-28 '59. (MIRA 12:12)
(Brazil--foundations)

DENISOV, Nikolay Yakovlevich, prof., doktor geologo-mineral.nauk;
POPOV, V.V., prof., retsenzent; NECHAYEV, B.I., dotsent, nauchnyy
red.; BORSHCHEVSKAYA, N.M., red.izd-va; TEMKINA, Ye.L., tekhn.red.

[Engineering geology] Inzhenernaia geologiya. Moskva, Gos.izd-vo
lit-ry po stroit., arkhit. i stroit.materialam, 1960. 403 p.
(MIRA 13:9)

(Engineering geology)

DENISOV, N.Ya., prof.; BALLI, R.Zh., inzh.

"Brailian karst" cases in irrigation. Gidr. i mel. 12 no.10:52-53 0
'60. (MIRA 13:11)

1. Moskovskiy inzhenerno-stroitel'nyy institut (for Denisov).
2. Bukharestskiy nauchno-issledovatel'skiy institut gidrotekhniki
(for Balli).
(Braila region, Rumania--Irrigation)
(Soil mechanics)

DENISOV, N.Ya.

Some problems of construction on loess soil. Osn., fund.i mekh.
grun. 4 no.4:18-20 '62. (MIRA 15:8)
(Loess)

DENISOV, N.J. [Denisov, N.Ya.], prof. (Moscow); KAMENOV, B., inz.
[translator]; FEDA, J., inz., C.Sc. [translator]

Some problems in laying foundation on loess subsoil. Inz
stavby 10 no.11:412-415 N '62.

DENISOV, N.Ya.

Deterioration of the properties of clayey soil during construction.
Prom.stroi. 40 no.6:23-24 '62. (MIRA 15:6)
(Soil mechanics)

DENISOV, N.Ya.

Stability of clay muds in drilling. Azerb.neft.khoz. 41
no.3:17-19 Nr '62. (MIRA 15:8)
(Oil well drilling fluids)

DENISOV, N.Ya.

The principle of effective stresses and the stability of clayey soils.
Osn. fund. i mekh grun. 5 no.2:5-8 '63. (MIRA 16:3)
(Soil mechanics) (Clay)

DENISOV, N.Ya.

Concerning the nature of the high sensitivity of quick clays.
Osn., fund. i mekh. grun. 5 no.5:5-8 '63. (MIRA 16:10)

DENISOV, N.Ya. (Moscow):

"On the long-term strength clay"

report presented at the 2nd All-Union Congress on Theoretical and Applied Mechanics, Moscow, 29 Jan - 5 Feb 64.

BABKOV, Valeriy Fedorovich, prof., doktor tekhn. nauk; GERBURT-
GEYBOVICH, Andrey Vladimirovich, dots., kand. tekhn.
nauk; DENISOV, N.Ya., prof., doktor geol.-miner. nauk,
retsensent; ~~MAKSEMOV, S.N., nauchn. red.~~

[Principles of soil science and soil mechanics] Osnovy
gruntovedeniia i mekhaniki gruntov. Izd.2. Moskva,
Vysshiaia shkola, 1964. 365 p. (MIRA 18:2)

DENISOV, N.Yu.

Six hundred and eighty centners of milk and hundred centners of
meat! Nauk i pered.op.v sel'khoz. 7 no.7:16-18 Jly '57. (MLRA 10:8)
(Stock and stockbreeding) (Dairying)

VINOGRADOV, Yu.N.; DENISOV, O.B.; TRAYTEL'MAN, G.Ya.

Pressing particle boards with the use of alops concentrates.
Der.prom. 9 no.3:11-12 Mr '60. (MIRA 13:6)

1. Sibirskiy tekhnologicheskii institut.
(Hardboard)

DENISOV, O.E.

Obtaining two cuts of corn and ensiling it in surface silos. Zhivot-
novodstvo 20 no.4:37 Ap '58. (MIRA 11:3)

1. Glavnyy agronom Mukhrovanskogo molochnogo sovkhoza.
(Georgia--Corn (Maize)) (Ensilage)

DENISOV, O.G.

B-14

USSR/Physical Chemistry - Colloid Chemistry.
Disperse Systems

Abs Jour : Referat Zhur .. Khimiya, No 2, 1957, 4040

Author : Denisov O.G.

Inst : Kuybyshev Institute of Civil Engineers

Title : Concerning the Structure of Clayey Soil

Orig Pub : Tr. Kuybyshevsk. inzh.-stroit. in-ta, 1956, No 3, 81-95

Abstract : Clayey soil is regarded as a colloidal system that comprises particles of different size and liquid films between them. There are differentiated: a) large primary (mother) particles, of the order of 100 A and larger, retaining the structure of the mineral and mostly of laminar shape; b) secondary (daughter) particles, containing portional structural groups and exhibiting enhanced chemical activity; c) particles of higher degree of dispersion which constitute the product of disintegration of primary and secondary particles; their composition does

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USSR/Physical Chemistry - Colloid Chemistry.
Disperse Systems

B-14

Abs Jour : Referat Zhur- Khimiya, No 2, 1957, 4040

cleaving action of water within microfissures and transition of a considerable group of particles to a state of sol; plasticity in moist condition; fluidity in water-saturated state; increased cohesion on decrease in moisture content.

Card 3/3

- 244 -

PEREDERIY, Ivan Alekseyevich; RYB'YEV, S.I., prof., doktor tekhn.
nauk, retsenzent: PAVLOVICH, A.F., inzh., retsenzent;
DENISOV, O.G., ispol. obyaz. prof., otv. red.

[Using high-strength gypsum in construction] Primenenie
vysokoprochnogo gipsa v stroitel'stve. Kuibyshev n/Volge,
Kuibyshevskii inzhenerno-stroitel'no-t, 1963. 284 p.

(MIRA 17:6)

1. Zaveduyushchiy kafedroy stroitel'nykh materialov Vse-
soyuznogo zaochnogo inzhenerno-stroitel'nogo instituta (for
Ryb'yev). 2. Zamestitel' nachal'nika Upravleniya stroitel'-
stva Kuibyshevskogo sovmarkhoza (for Pavlovich).

13117

S/063/62/007/005/003/006
A057/A126

AUTHORS: Shchekotikhin, A.M., Blagoveshchenskiy, V.S., Sidorenko, V.V.,
Denisov, O.K.

TITLE: Fluorine derivatives of acetylene hydrocarbons, α -fluorinated perhalogenpropines

PERIODICAL: Zhurnal vsesoyuznogo khimicheskogo obshchestva imeni D.I. Mendeleeva,
v. 7, no. 5, 1962, 580 - 582

TEXT: The preparation of α -fluorinated perhalogenpropines of the type $CF_nHal_{3-n}-C \equiv C-Hal$ was investigated ($n = 1, 2, 3$; Hal = Cl, Br). By means of dehydrohalogenation of monohydrohalogenpropylenes over calcinated sodium hydroxide at 210 - 290°C in a nitrogen stream was synthesized: 3,3,3-trifluoro-1-brompropine-1; 3,3,3-trifluoro-1-chloropropine-1; 3,3-difluoro-1,3-dichloropropine-1; and 1-fluoro-1,3,3-trichloropropine-1. It is demonstrated that α -fluorinated perhalogenpropines give only dihalogen derivatives in a reaction with halogenes in chlorinated solvents without heating. Infrared spectra of the obtained perhalogenpropines showed for these compounds the characteristic absorption band at 2,200 cm^{-1} , being thus somewhat different from corresponding literature data. The band shift is ex-

Card 1/2

Fluorine derivatives of....

S/063/62/007/005/003/006
A057/A126

plained by the effect of the halogen near to the carbon atom with the triple bond. This observation will be discussed in further papers. The presence of the triple bond was proved also by a successive addition of two and four halogen atoms. The fact that α -fluorinated perhalogenpropines react with chlorine, or bromine in the absence of a solvent, in light and at room temperature by explosion, while in the presence of chloroform, or methylene chloride only to dihalogen derivatives is explained by the assumption that the deactivating effect of the trimethylene group (in relation to an electrophilic attack) is spread only on one π -bond and has just a weak effect upon the other. The tetrachlor derivatives were prepared in sealed ampullas at elevated temperature, the tetrabromine derivatives only by irradiation with ultraviolet light in a quartz vessel. Basic experimental data are presented in a table.

SUBMITTED: October 26, 1961

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L 26363-66 EWA(h)/EWT(1)

ACC NR: AP6011201

SOURCE CODE: UR/0413/66/000/006/0035/0035

INVENTOR: Denisov, O. Ya.; Bogdanov, A. A.

40
B

ORG: none

TITLE: An integrating device for phase correction in a receiver distributor. Class 21, No. 179794

SOURCE: Izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, no. 6, 1966, 35

TOPIC TAGS: shift register, phase detector

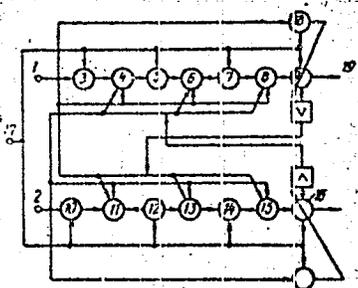
ABSTRACT: This Author's Certificate introduces an integrating device for phase correction in a receiver distributor. The unit is based on shift registers. The phasing time is reduced and the correction circuit is protected from false phasing during reception of isolated signals with distorted fronts by rectifier circuits connected to the outputs of the shift register combined with connection of the phase discriminator outputs of the appropriate rectifier inputs and to a control device.

UDC: 621.394.622.2

Card 1/2

L 26363-66

ACC NR: AP6011201



1 and 2--shift register output; 3-9--cells for the first shift register; 10-16--cells for the second shift register; 17--cadence pulse input; 18--rectifier for the first register; 19--output from the first register.

SUB CODE: 09/

SUBM DATE: 02Dec63/

ORIG REF: 000/

OTH REF: 000

Card 2/2 *cc*

PA 44/49730

DENISOV P. A.

USSR/Electricity
Power Plants
Water

May 49

"Protecting the Water-Intake Installations of
Electric Power Plants From Ice and Snow," P. A.
Denisov, Engg, 3 pp

"Elek Staty" No 5

Water-intake installations should not be placed
(1) on river sections subject to ice jams or
blocking, or (2) close to river sections having
rapids, sandbanks, or generally rapid flow,
which would delay or prevent formation of an ice

44/49730

USSR/Electricity (Contd)

May 49

cover, as these sections are "sledge-ice
factories."

44/49730

1. TSAPKO, A.S.; DENISOV, P.A.
2. USSR (60G)
4. Fish, Smoked
7. Continuous-action smoke generator, A.S. TSapko, P.A. Denisov, Ryb.khoz. 29 no. 4, 1953.

9. Monthly List of Russian Accessions, Library of Congress, APRIL 1953, Uncl.

DENISOV, F. A.

Basing a thermal electric power station's water supply on mixed water. Elek.
sta. 23, No 7, 1952.

^{A.}
DENISOV, P., inzhener.

Sinking reinforced concrete piles by water jet. Stroitel' 2
no.8:21 Ag '56. (MLRA 9:12)
(Piling (Civil engineering))

DENISOV, P.A., inzh.

Concerning the design of cooling reservoirs. Elek.sta. 33 no.2:20-26
F '62. (MIRA 15:3)

(Electric power plants)(Reservoirs)

DENISOV, P.A., inzh.

Choice of the depth of water cooling reservoirs with consideration
of the prevention of the growth of aquatic vegetation.

Elek. sta. 34 no.1:33-37 Ja '63. (MIRA 16:2)
(Electric power plants—Water supply)
(Reservoirs)

CHUPAKHIN, Vasilii Mikhaylovich; DENISOV, P.A., inzh., retsenzent;
GUBAYDULLIN, R.I., prepodavatel', retsenzent; LEGNOV,
I.T., dots., spets. red.; KUZ'MINA, V.S., red.

[Equipment for fish processing plants] Oborudovanie rybo-
obrabatyvaiushchikh predpriatii. Moskva, Pishchevaia
promyshlennost', 1964. 479 p. (MIRA 18:1)

1. Astrakhanskiy rybopromyshlennyy tekhnikum (for Gubaydullin).

21.2000

77325

SOV/57-30-1-4/18

AUTHORS: Denisov, S. G., Ivanov, D. P. , Komar, A. P., Korobochko, Yu. S.

TITLE: Investigation of Electron Distribution in a Batatron Vacuum Chamber

PERIODICAL: Zhurnal tekhnicheskoy fiziki, 1960, Vol 30, Nr 1, pp 31-36 (USSR) (MIRA 13:8)

ABSTRACT: The authors devised experiments to investigate the space charge distribution over the cross section of the chamber. During the injection time the electron distribution was studied with a fixed magnetic field while the distribution of the trapped electrons was studied during the work of the betatron and in the presence of γ -rays. All measurements were done on the betatron of the Leningrad Politechnic Institute (Leningradskiy politekhnicheskii institut), with a maximum γ -ray energy of 15 mev. (1) Investigations of electron distribution over the chamber cross section at injection time: The block diagram is on Fig. 1. The probe is a molybdenum wire

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Investigation of Electron Distribution in
a Batatron Vacuum Chamber

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SOV/57-30-1-4/18

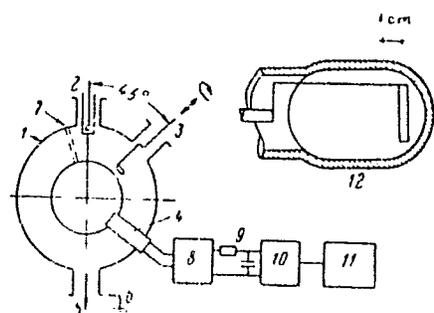


Fig. 1. (1) vacuum chamber;
(2) injector; (3) probe;
(4) coil; (5) pump connections;
(6) grounding of the conducting coating of the chamber; (7) slit in the conducting coating; (8) and (10) preamplifier and amplifier; (9) integrating circuit; (11) oscillograph; (12) diagram of the probe position in the chamber.

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Investigation of Electron Distribution in
a Batatron Vacuum Chamber

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1.2 mm in diameter, with a 5 x 25 mm² stainless steel plate at the end. The current in the chamber is reduced by the amount of the charge caught by the probe, and this quantity is proportional to the density of electrons at the position of the probe. The size of the current is measured by means of a coil, wound around the chamber, whose signal after amplification and time integration is fed to the input of an oscillograph with slave scanning. The input signal is, at every moment, proportional to the instantaneous magnitude of the nonstationary current in the chamber. The apparatus registers the current distribution at the moment when the radius of the injected electrons is near the geometrical center of the cross section of the chamber. The injection impulse was nearly equal to a half-wave of a sinusoid of approximately 40 μ sec duration and of an amplitude 4 to 8 kv. Prior to measurements the injector is always adjusted to yield a maximum value of the nonstationary current for the given emission from the injector. Figures 2a and 2b represent the decrease in the nonstationary current, I,

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Investigation of Electron Distribution in
a Batatron Vacuum Chamber

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as a function of the position of the probe. Curves are obtained for emission currents varying between 7 and 30% of the calculated limiting current. The authors explain that the variation in I/I_{\max} with the injection current intensity, is due to the registration procedure they have chosen and not due to processes occurring in the camera. Figure 2b shows two clear minimums corresponding to the first and second electron revolution in the chamber. From the position of these and the position of the filament, the authors obtain 0.69 for the effective value of n over the gap width, and for the angle between the circle tangent to the filament and the direction of the beam axis, a value $\theta = -2.2^\circ$. This yields the beam regions for the first five turns plotted at the top of Fig. 2b., where the trapping angle for the beam is limited by the width of the chamber to 3.8° . Compared to this, the width of the minimum shows that the actual trapping width corresponds to a $\theta' = 4.5^\circ$. These regions are shown by thick lines on Fig. 2b.

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Investigation of Electron Distribution in
a Batatron Vacuum Chamber

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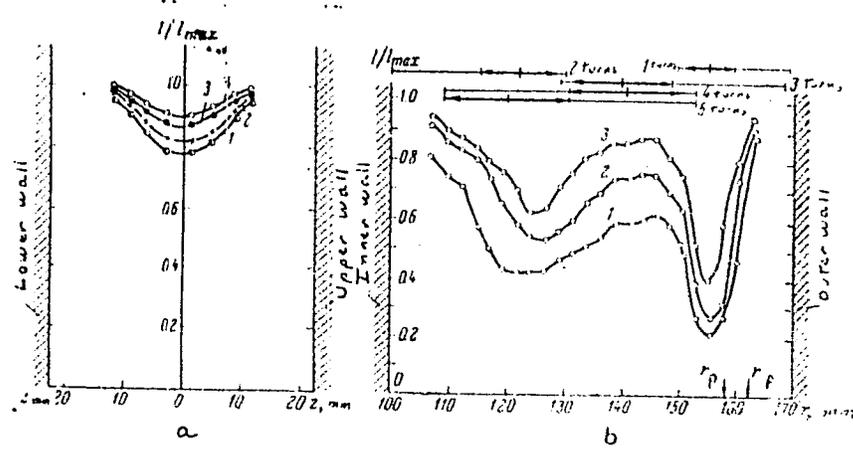


Fig. 2. (a): (1) $I_{em} = 0.07 I_{lim}$; (2) $I_{em} = 0.16 I_{lim}$; (3) $I_{em} = 0.25 I_{lim}$; (4) $I_{em} = 0.3 I_{lim}$ (b): (1) $I_{em} = 0.07 I_{lim}$; (2) $I_{em} = 0.16 I_{lim}$; (3) $I_{em} = 0.3 I_{lim}$. r_f and r_p are radial coordinates of the injector filament and injector point nearest the orbit (similar in Fig. 4b).

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Investigation of Electron Distribution in
a Batatron Vacuum Chamber

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SOV/57-30-1-4/18

Attempts to measure the probe current fail, mostly because of secondary electron emissions. (II) Distribution of trapped electrons: While the probe in the stationary magnetic field is almost completely transparent to electrons, which made some 10 turns, during the working cycle of the betatron the probe becomes completely opaque when at the place of the equilibrium radius, as seen in Fig. 4a and 4b. Figure 4b shows that electrons occupy practically the entire width of the chamber, and the largest electron current density is in the equilibrium region. This takes place also during the accelerating cycle. Detecting the γ -rays generated by means of a scintillation detector, the authors found rays of 4-5 mev energy hitting the probe during the acceleration process. The authors do not know the exact cause of the step to the left of the minimum of the equilibrium radius. They speculate that there may be two trapping orbits, or that for some values of the instantaneous radius and radial oscillation amplitudes, there may be a resonance value of 0.75

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